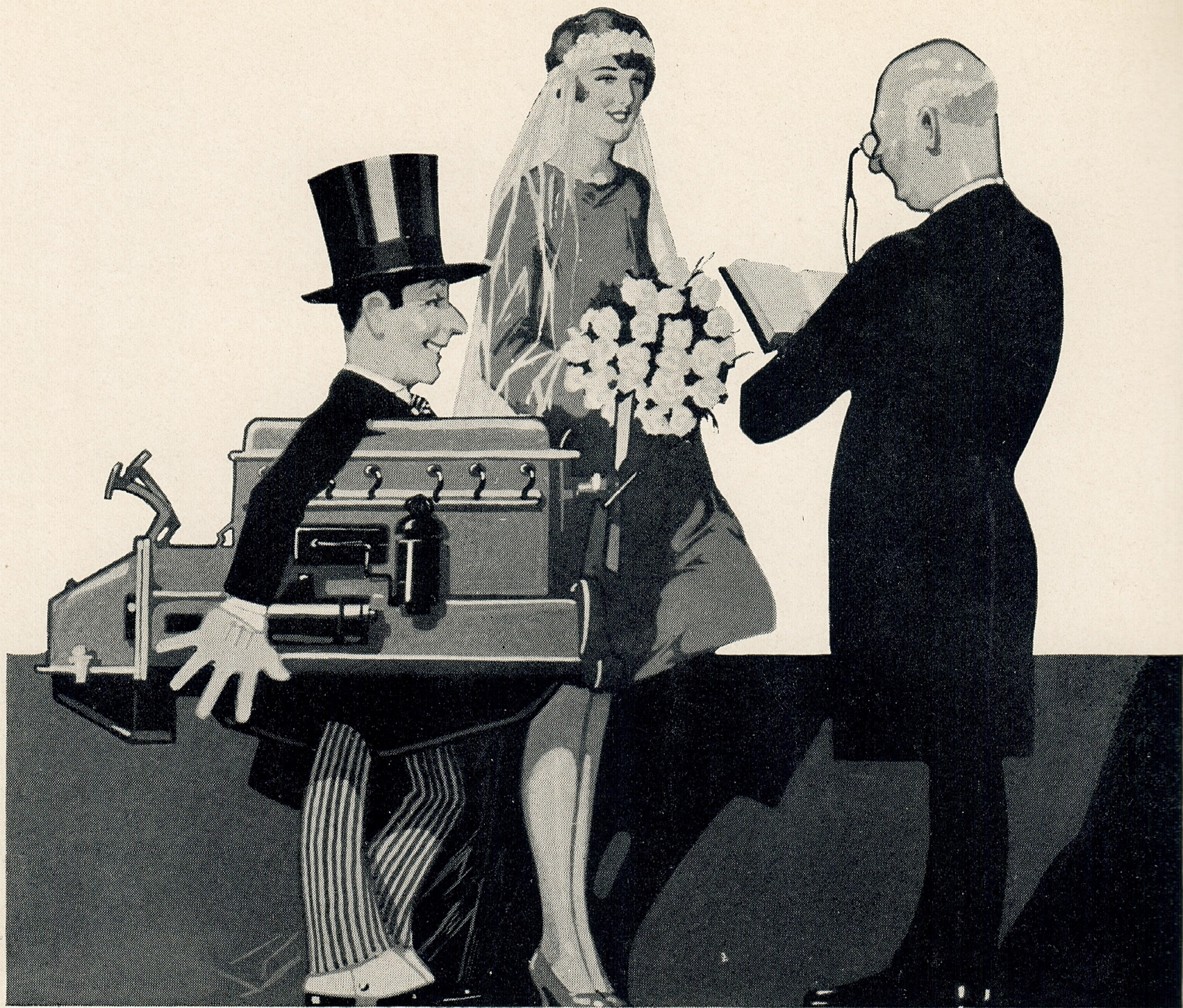


UNION
OIL
BULLETIN

NOVEMBER 1927



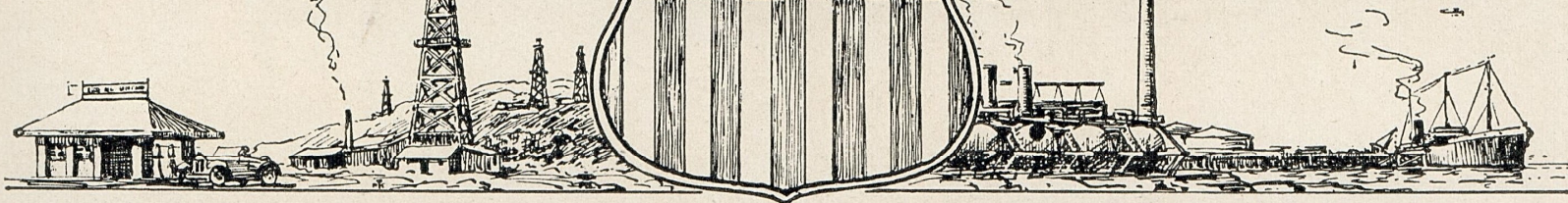
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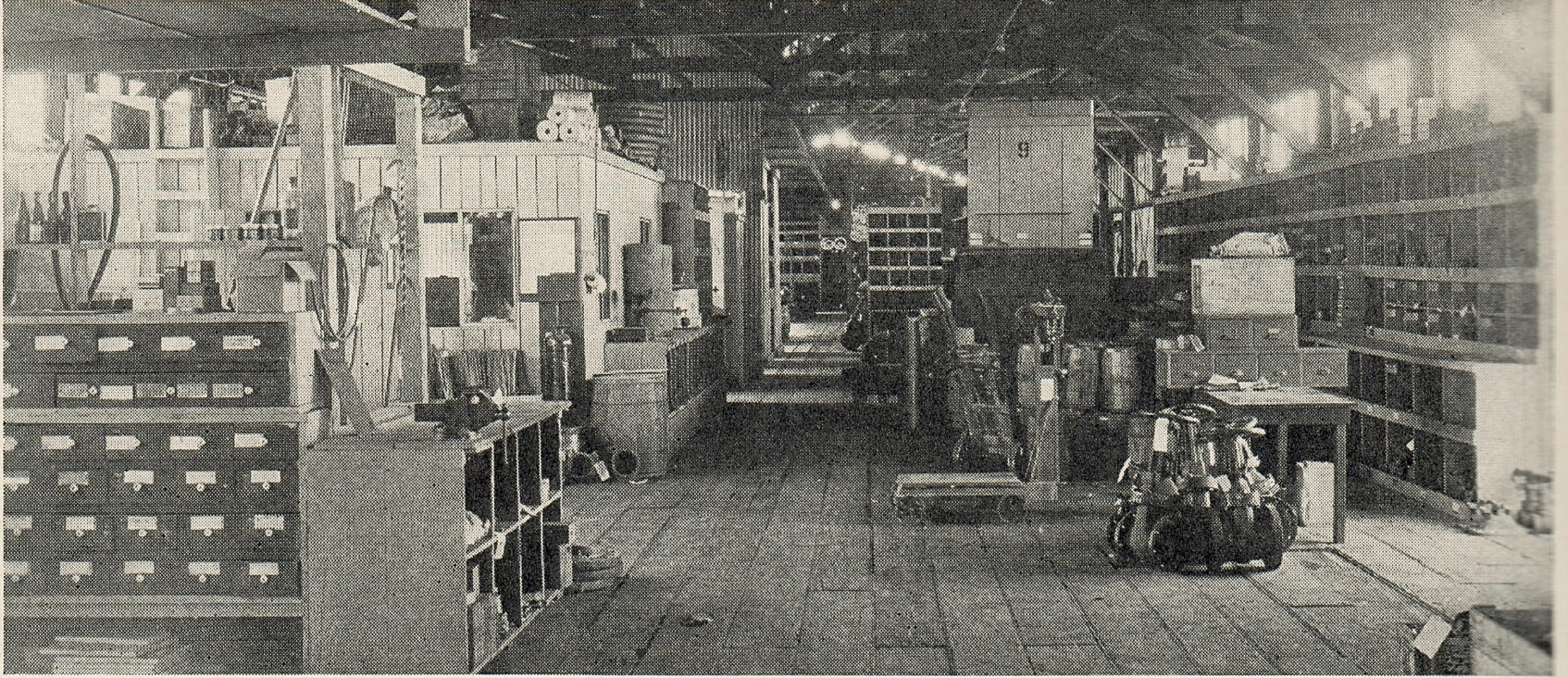
The American Petroleum Industry

THERE seems to be a persistent effort to dragoon the idea into the general public that the men in charge of the production of petroleum are deliberately wasting this precious material. While it is true that from time to time new fields are discovered, through the courage of the wild-catter, before the market is prepared to absorb the oil, the excess is stored on top of the ground where it is easily accessible for any emergency. Where is the oil being wasted? It is certainly not destroyed deliberately to decrease the visible supply, anticipating a consequential raise in price. Notwithstanding increasing costs each year due to the necessity for drilling to greater depths, the price of oil and gas has remained consistently low.

Every year for the last decade oil famines have been predicted for the "immediate future." Oil men have nevertheless continued to find new fields, devise more efficient methods of drilling capable of reaching deeper and richer zones, and every indication points to a continuance of this development.

What problems are faced by the oil industry that are not faced by all other industries whose existence depends upon the sale of a competitive product? Perplexing situations arise constantly, it is true, just as they do in the mining of coal or the growing of grain or cotton.

Problems of the oil industry, as of any industry, can easily be solved if approached with an unselfish attitude and the proper confidence among members of the industry. And who is more capable of controlling the destinies of American petroleum than that group of men who have devoted their lives to oil and have guided the industry through its career of progress and development of the past sixty years?



Interior of Los Angeles Refinery Warehouse

We Have It in Stock!

By I. D. LEONARD

Everything from scrub brushes to gas engines is handled by the Stores Division, but its biggest claim to publicity is its personnel. While Mr. Leonard doesn't say so, readers of his article might get the idea that the men of the Stores Division are an exceptionally intelligent and energetic lot. They are.—THE EDITOR.

WHETHER a company be large or small, it is necessary to purchase material in quantity at certain times, either to effect a saving in price or to provide for the future against a scarcity. Then, again, material needed in the ordinary course of business of a firm cannot be bought economically piece by piece or sheet by sheet because of the cost of ordering, the length of time consumed in effecting delivery, the additional transportation charge incurred, and the possible loss due to the lack of some much-needed article or repair-part.

There is, then, a problem in the case of a large corporation, such as the Union Oil Company, to store as much material as may be needed to care for a large business, distribute the goods over a vast territory to suit the needs of the plants, fields and stations, and at the same time be in position

to transfer certain material which the company may have on hand at one point, to take care of a need for like material at another point of operation.

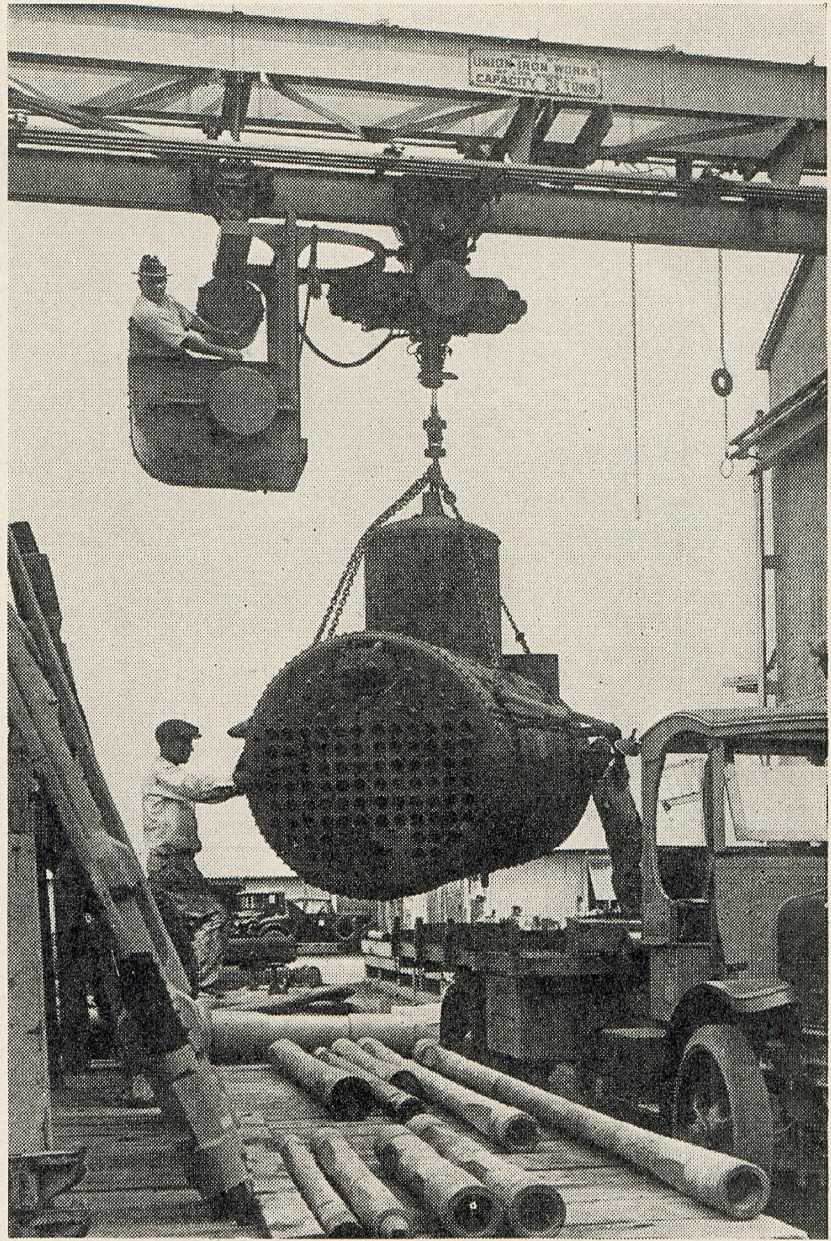
For material is valuable and represents just as much cash as would be required to buy it in the open market. Naturally, large quantities of cash may not be left to lie about in the form of usable material which is not needed, for it prevents the use and investment of the same amount of money in an income-producing manner. Eggs have a habit of spoiling as time passes, and the company's "material eggs" must be used or some of them may spoil.

The company's problem of storage and distribution of supplies and material for use of the fields and refineries of California, is in the hands of the Stores Division of the Purchasing Department. At the head of the

Stores Division is the General Storekeeper, M. F. Robertson, with offices in the Union Oil Building, Los Angeles.

Scattered over California at the points of greatest need are stored stocks of goods of every kind and size needed to supply the workings of the huge business that is the Union Oil Company. These stocks of goods are located at Los Angeles, Oleum, San Pedro, Brea, Stearns, San Luis Obispo, Maricopa, Santa Fe Springs, Wilmington, Dominguez, Orcutt, and Avila, and are in charge of district storekeepers who are charged with the duties of maintaining a constant supply of needed articles, preventing the accumulation of obsolete and surplus material, and the salvaging of such usable material as may accumulate at the various plants and leases.

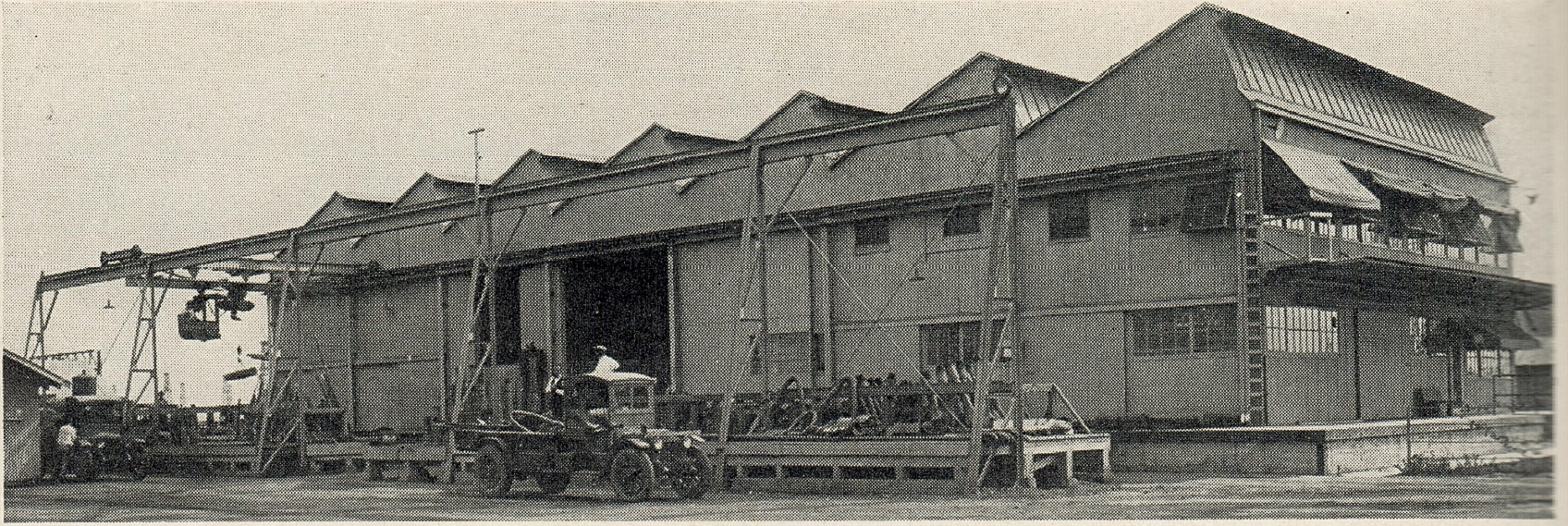
An idea of the magnitude and diversity of the company's operations and the problem of the Stores Division can be obtained from the inspection of its books, which list precisely 22,598 different kinds and sizes of material and supplies. This number covers just the items which are regularly carried



An overhead cab crane loading a 2½-ton boiler at Santa Fe Springs



Personnel of the Brea warehouse. Mr. Leonard, the author, is kneeling at the left. Second from right, standing, is H. C. McMasters, Storekeeper



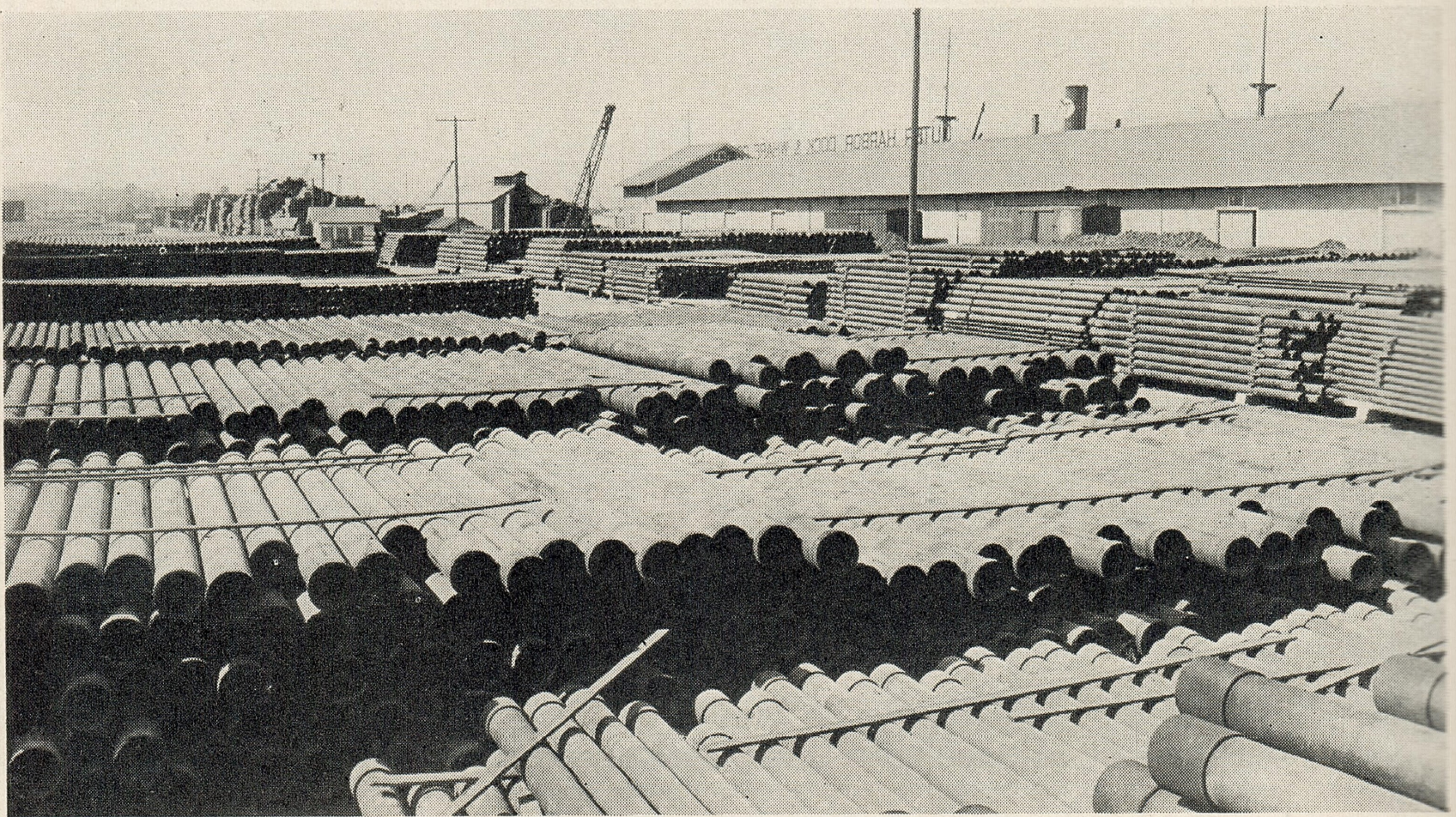
Santa Fe Springs Warehouse

in the warehouse stocks, and does not include hundreds of special items bought for specific purposes and put into use as soon as received without being placed in stock.

Automobiles, brick, clay, dynamite, ether, flower-seeds, garters, gas masks, gold fish, hedge shears, iodine, jacks, kerosene, lanterns, lumber, motors, nuts, oils and paints, rope, rags, and so on, to zinc, with every letter of the alphabet represented—that is the impression received in glancing over the master stock list in the offices of the Stores Division. No warehouse, of course, would attempt to stock every article for local use, but these are a

few of the articles that employees of the Stores Division warehouses expect to supply out of stock or secure upon short notice, to meet the every-day demand of the various departments of the company. They occasion no surprise.

Millions of dollars worth of materials are thus handled in the course of a year, with a strict accounting of every article from a single screw or pipe fitting, to an entire boiler, pump, motor or carload of sulphuric acid. Each separate article or part is assigned a separate number as a symbol number being placed either on the article itself, or on a special label and ap-



Pipe Yard at San Pedro



Precisely 22,598 different kinds and sizes of material are handled by the Stores Division. Items shown above are not commonly associated with the operation of an oil company.

pearing, as well, on all records covering the article from the time it is bought until it is put into use.

The methods of salvaging usable discarded material, have been dealt with in prior articles by the Bulletin, and the salvage of this class of supplies is becoming more and more important in the work of the Stores Division.

The employees of the Stores Division must of necessity be familiar with all of the kinds of stock which they are called upon to handle, both from the standpoint of the user as well as of the wholesaler and dealer. Requests such as for a "hook-up snivvey," are often made for articles by the common name only in use in an oil field or refinery. This must be translated to the proper technical or descriptive name when filling the order or requisitioning additional supplies for stock.

Employment in a Stores Division warehouse soon gives the employee an extensive knowledge of goods of many classes, such as plumbing, hardware, paints, steel, lumber, foundry, chemical and drug, building supply, electrical, clothing and textile,

quarry, nursery, and oil well supply, and also provides instruction in such things as bookkeeping and blueprint reading, and the gentle art of piloting a truck, fitting a pair of rubber boots or operating a typewriter.

Some knowledge of packing materials, routing, billing and shipping, the proper treatment and care of goods in storage, and the arrangement and use of the warehouse facilities for convenience and compactness, are daily demanded of him.

The forces of the Stores Division have a rather specialized field and in spite of the fact that they are included in the group of departments sometimes dubbed "non-productive," the hours of overtime sacrificed to the periodical shut-down, the emergency repairs, the rush job and the well being "brought in," not to mention the nights devoted to the semi-annual inventory and the in-between check-ups; the cheerfulness exhibited and the courtesy shown the departments served, are proverbial. "Get the Goods" and "Service" are more than slogans.



In the Doldrums, South Pacific

Caught in the Doldrums

By A. E. FOWKS

LATE in the month of July of this year the writer was traveling from San Pedro to British Columbia as a guest on the Union Oil S.S. *Coalinga*, in command of Captain N. E. Larson. One evening whilst off the



A. E. FOWKS

coast of Oregon or thereabouts, I was enjoying one of my daily social visits with the Captain in his quarters, and our conversation drifted to sea yarns, as usually happens on shipboard. We swapped several covering various parts of the world, and finally got down to the west coast of South America, when I told of a trip I had made to the Galapagos Islands in my boyhood days on the U. S. S. *Shenandoah* of Civil War fame. She was ordered there to take soundings for the Navy Department. Captain Larson seemed particularly interested in this yarn, and when I had finished, asked me if we had visited Indefatigable Island; and upon assuring him that we had sailed around practically every island of the group, he explained that why he asked this was that when he was a boy of some sixteen years of age he had been marooned on Indefatigable for five months and fourteen days. With some encouragement on my part he proceeded with his story as follows:

He was seaman on a sailing ship bound from a European port to one of the groups of islands in the South Pacific that was caught in the doldrums and lay absolutely becalmed for many weeks; their provisions and supply of fresh water finally ran so low

that it became necessary to abandon the ship and take to the boats with what food and water was left, and search for land. There were two boats, one in command of the Captain of the ship, the other in charge of the first mate. The nearest land was the Galapagos; they knew that Chatham, one of the islands of the group, was inhabited by a penal colony of the Ecuadorian Government, and this was their objective. The two boats became separated the first night after they abandoned the ship, and never came together again. Each boat crew believed the other had been lost. After many days of rowing and sailing after they got out of the doldrums, they sighted land and went ashore on a desert and uninhabited island which they believed to be Chatham Island. They tied their boat to a rock and then spread out on the sand for a much-needed sleep as they were nearly exhausted. The following day when they went down to their boat they found it had been smashed against the rocks during the night, and they were marooned on what appeared to be a deserted and desolate island: no vegetation, and the water so brackish that it was hardly drinkable. They still believed, however, that they were on Chatham and that the colony, perhaps, was on the opposite side of the island. There were many turtles and fish and these constituted their only food supply during the whole time they were marooned. After a few days it was decided to send out two expeditions to explore for fresh water and for the settlement they believed was somewhere near. Larson and another boy started in one direction and two other sailors in another. The first party found good fresh water after a day or so, and returned to the camp to re-



Indefatigable Island is Sighted

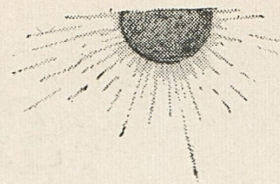
port—they saw no evidence of human life. One of the men of the second party returned a day or so later, and reported that he had become separated from his companion, whose bones were found some months afterwards, and it was assumed that he had fallen on the rocks and perhaps broken a leg, and thus died of starvation and thirst.

The camp was soon moved to the location of the fresh water spring Larson had found, and these unfortunate men there eked out an existence for over five months on turtle-meat and fish. When they landed they had six matches with which they were able to start a fire, which they kept alive during the whole time they were on the island. The strain proved too much for the mind of the ship's captain, and some weeks after the landing he became violent and it became necessary to keep him tied with ropes made from dry sea-weeds.

It is usually the case that when a number of men are thrown together uncontrolled by law and order, a leader will immediately develop to regulate their manner of living;

and so it was that so soon as the captain became incapacitated one of the common seamen took the lead and became the "boss." He framed a system of work, amusement, morale and observance of religion that kept these men from slipping back into a savage state. This new leader soon put his men to work gathering drift logs from the beach and they constructed a raft, tying the logs with ropes they had salvaged from their wrecked boat. After several weeks of hard work, the raft was ready to launch and was pushed into the surf. It promptly sank to the bottom. The wood was waterlogged and too heavy to float. Perhaps it was just as well, for the plan was to drift out to sea on the raft, trusting to luck in being carried to some other island by the wind and currents. Their chances were few, and probably they would have gone down in these lonely seas and never been heard from again, thus closing the chapter as another mystery of the great Pacific. The work in building the craft had kept the men busy and to a great extent eased their minds from their terrible ordeal.

Two of the party died of sickness before they were rescued, and all were reduced to



The Raft Proves Unseaworthy

a horrible state of emaciation from undernourishment and hardship. Of course, their clothing and shoes were soon gone and all they had when they were rescued were a few rags; barely enough to cover their nakedness; and to protect their feet from the rocks and hot sand they made sandals from the tough skin of a certain fish they caught from time to time. The only evidences they found of anyone ever having been on the island were some initials carved on a shrub, and a woman's shoe one of the men found in a crevice in the rocks.

Now, the boat in command of the mate, made Chatham Island and found the penal colony, where they had an abundance of food, water and the other necessities of life. In the course of time an Ecuadorian government ship visited the island as was customary at stated periods, and so this boat's crew was taken back to the mainland and landed at Guayaquil. Although they believed the Captain's boat had been lost, they succeeded in fitting out a small sailing craft and some of them went back to the archipelago to search for their shipmates,

but were unsuccessful and returned to the mainland with "no news."

It happened, however, that one of the men of the lost boat's crew had a relative living somewhere on the coast of Chile who decided to make a last search, and so fitted out a schooner to make a combination fishing and search cruise, figuring that the fish catch would be a financial success and thus pay for the expedition. The orders were to sail around every island in the archipelago before giving up. On a certain day the marooned party saw a sail out to sea, and desperately went to work with their fires to make a smoke screen in an endeavor to attract the attention of the passing vessel, which of course was the search schooner from Chile. She passed by, however, far out on the horizon, and hope was about given up when she tacked in toward the shore, and the rescue of these brave men was at hand. They were soon back to normal health with proper food and peace of mind, and were eventually landed at Guayaquil, Ecuador, from whence they found their way back to their respective homelands.

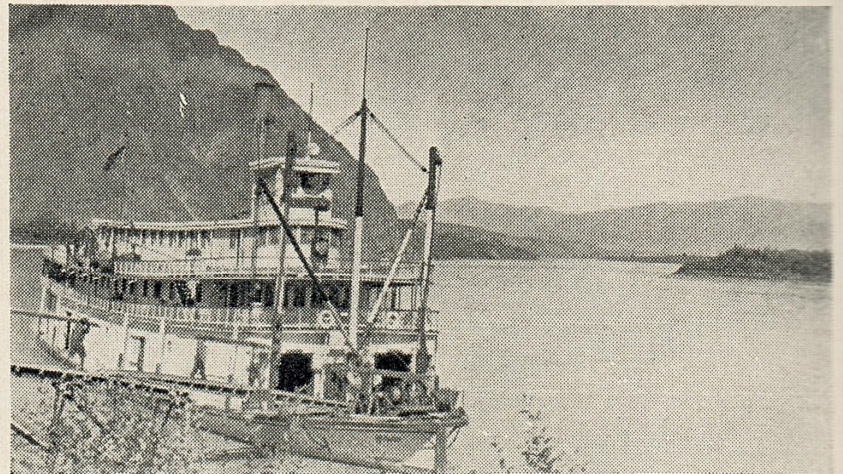
Summer in Alaska

By ALBERTA P. MANN

THE SPELL OF THE YUKON

THERE'S A LAND *where the mountains are
nameless,
And the rivers all run God knows where;
There are lives that are erring and aimless,
And deaths that just hang by a hair;
There are hardships that nobody reckons;
There are valleys unpeopled and still;
There's a land—oh, it beckons and beckons,
And I want to go back—and I will.*

ROBERT W. SERVICE



Steamer Yukon at Eagle, Alaska

“GARDENS, Glaciers, Nightless Nights” is the slogan of Skagway, Alaska, the gateway to the Yukon River country. It might well be applied to all of Alaska during the summer months. Many people still think of Alaska, particularly the interior, as a vast, bleak, inaccessible country and will scarcely believe that its summer climate is as mild as that of Southern California. The popular conception seems to have been gained from pictures and stories of the gold rush days when thous-

ands of eager men fought their way during winter months over the frozen passes to the Klondike region.

Today the summer tourist may follow the Trail of '98 to Dawson and, as he rides over the White Pass and Yukon Railway, along the rugged Sawtooth Range with its glaciers still clinging to the steep canyon walls, and travels by boat down the Yukon River, see the deserted camps and abandoned cities of those hectic days; let his imagination take him back thirty years when the deserted shacks he now sees rep-



Sunrise 2:45 A.M., July 17, 1927



Sunset North of Arctic Circle 11 P.M.

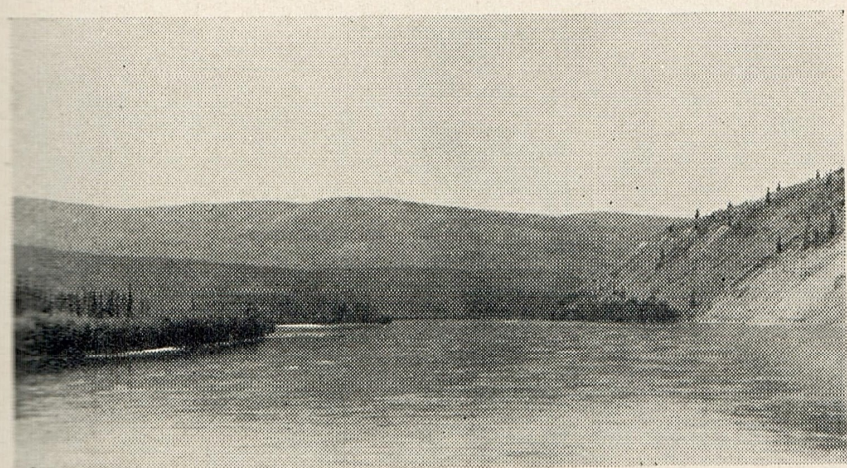
resented communities of thousands; and looking out from the comfortable observation cars of the railway see in his mind's eye the anxious seekers of wealth straining every muscle, pushing their way up the steep slopes with backs bending under heavy packs.

Lake Bennett is peaceful and calm and undisturbed now, but one can easily visualize the excitement of building barges and river craft to make the last lap of the journey by the water route. As the tourist looks down into the narrow, treacherous stretch of Miles Canyon (the Grand Canyon of the Yukon) and the seething waters of Whitehorse Rapids a few miles below, he can readily understand how the inexperienced who navigated these safely had a kind Providence to thank and were glad to halt

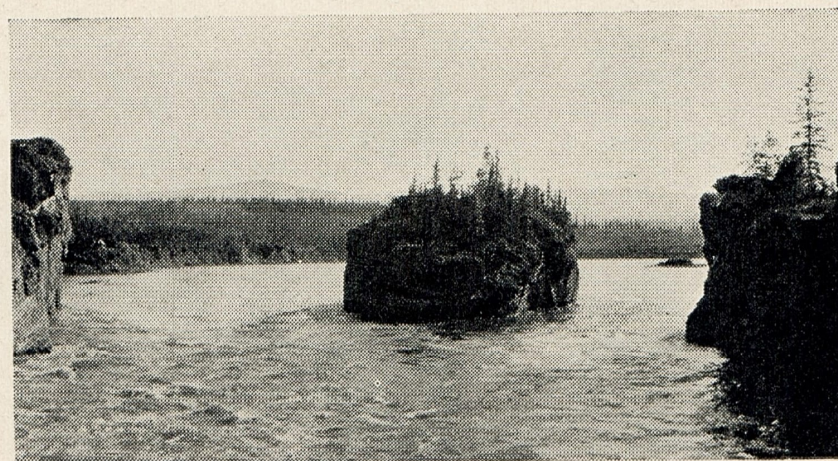
at the settlement of Whitehorse before again entering the race to the gold discoveries.

Summer transportation into the Yukon country is by boat from Whitehorse. The stern-wheel, shallow-draft boats are busy from June to September making trips up and down the river carrying in supplies for long winter months when the only means of transportation is by dog team. The traveler is carried through a country of ever-changing panorama of the primeval in nature and the primitive in works of man.

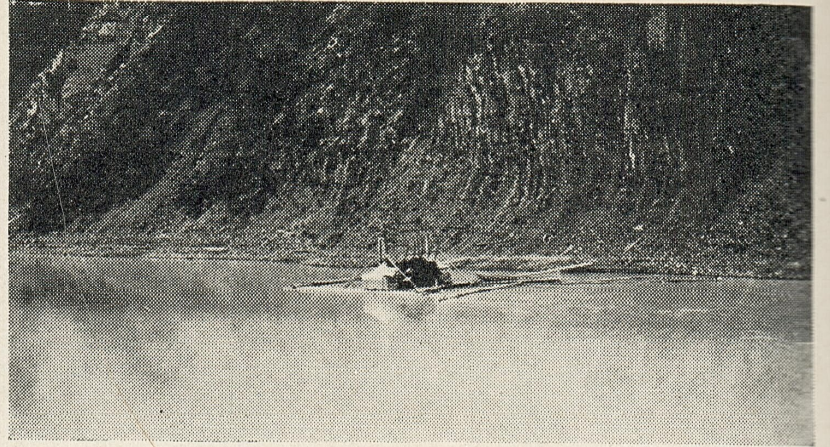
In its upper reaches the river is swift and narrow, winding its way around sharp turns between steep, colorful banks. As it makes its way northward it gradually widens out and reaches the proportions of an inland sea at the Yukon Flats, where the



Yukon River



Five Finger Rapids

*Drying Salmon**Salmon Wheel*

Arctic Circle is crossed and the great bend made in a southwesterly direction.

Life along the river is quiet and peaceful. The steamer proceeds leisurely along its way, now between steep bluffs, now in and out among small islands of vivid green contrasted against the muddy waters of the river, through hundreds of miles of vast stretches of wilderness, stopping now and then to fuel at huge wood piles placed at convenient intervals along the shore to provide the boiler of the steamer with the one cord per hour necessary to keep up steam. These great piles of spruce wood seem to be just where needed. There is no ring of the woodsman's axe, no evidence of cutting in the dense forests behind—it is as though some one had slipped in quietly, left them there and disappeared.

Occasionally an Indian camp fire is seen on the banks and the stillness of the day broken by the groanings of the fish wheels as they are turned by the current of the river. Now and then a silvery flash is seen as a salmon is caught and thrown into the box beside the wheel. There are no commercial fisheries on the Yukon River; this

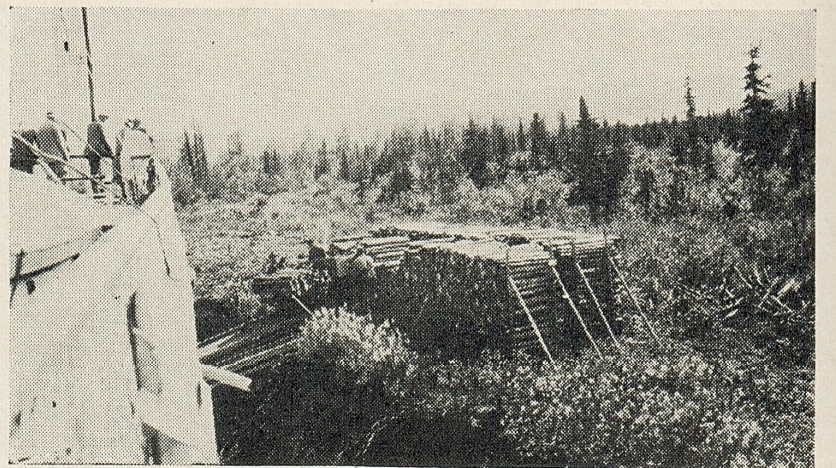
source of food supply has been reserved for the Indians by the Government. In many places the fish are cleaned and hung up to dry near the fish wheels; the large racks with their strips of red salmon make a vivid splash of color against a somber background.

Scattered at intervals several hundred miles apart are settlements of crude log cabins. Necessity of one kind or another is responsible for these lonely outposts of civilization.

On the hillsides and in open spaces in the forest luxuriant wildflower gardens present bold sweeps of color. Fireweed, lupine, paint brush and yellow compositæ seem to acquire a brilliance excelling that of any other region.

The river itself is a putty color, making an excellent contrast for the glorious effects of color along its banks. Sunset and sunrise colorings with all their modifications of purple, rose and gold are held in the smooth surface of the muddy river.

This is the land of the midnight sun—long, lazy days—unbroken solitude—vast wilderness—an alluring land—the Yukon Country.

*Fort Yukon**Loading Fuel on Yukon River*

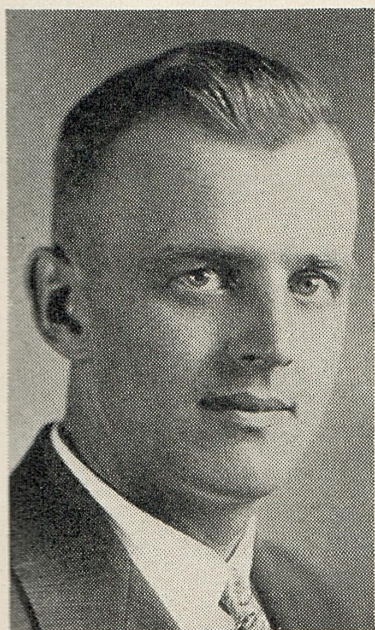
GAS BAGS

By MORRIS L. BOXELL*

Aerial Observer

Spherical Balloon Pilot

SINCE 1910 when Wellman, in a non-rigid dirigible, made the first attempt to span the Atlantic by air, the ocean has been crossed successfully three times by great gas bags. The British airship R-34, in



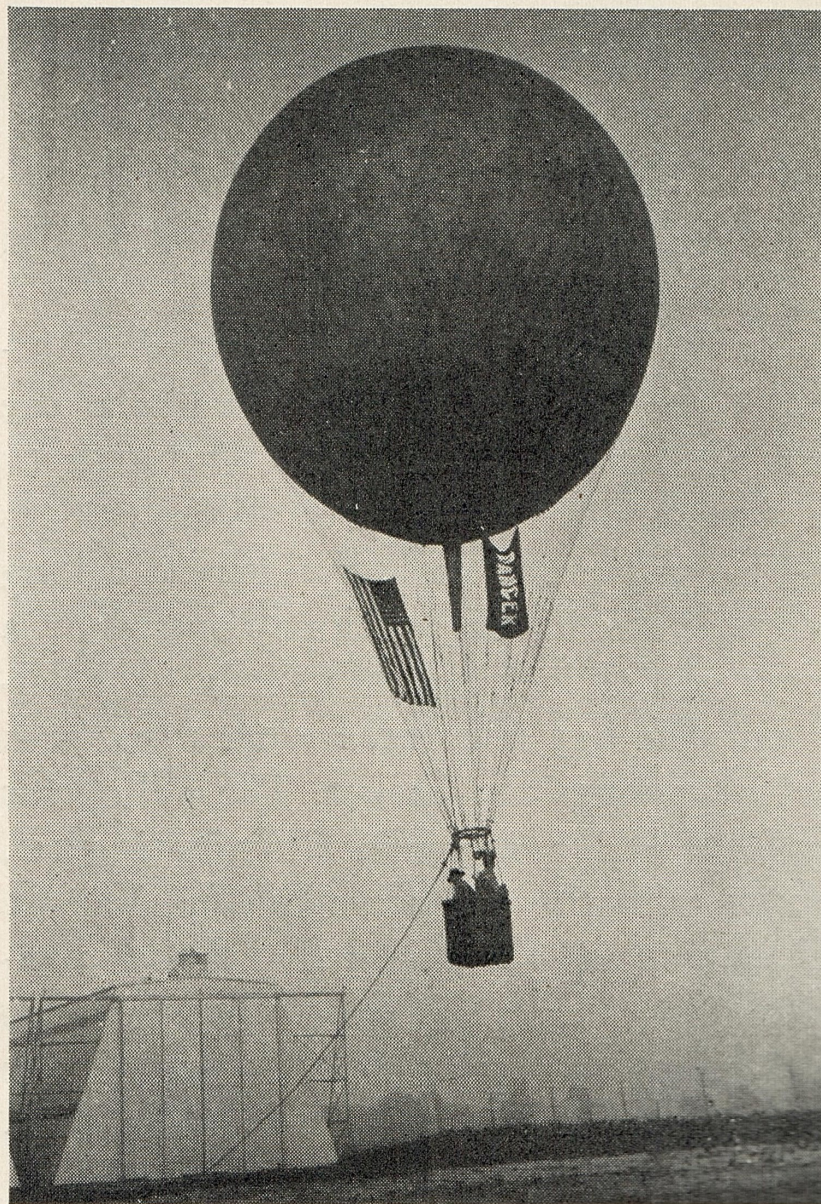
MORRIS L. BOXELL

July, 1919, covered the 3130 miles from East Fortune, Scotland to New York in 108 hours and, on the return flight to Pulham, England, covered the 3200 miles in 75 hours. Five years later, in October, 1924, the airship ZR-3 (renamed the Los Angeles) crossed the

Atlantic from Friedrichshafen, Germany to Lakehurst, N. J., 5066 miles in 81 hours. These flights, with many noticeable trips over land, bring to attention the commercial possibilities of lighter-than-air craft for long distance pay flights.

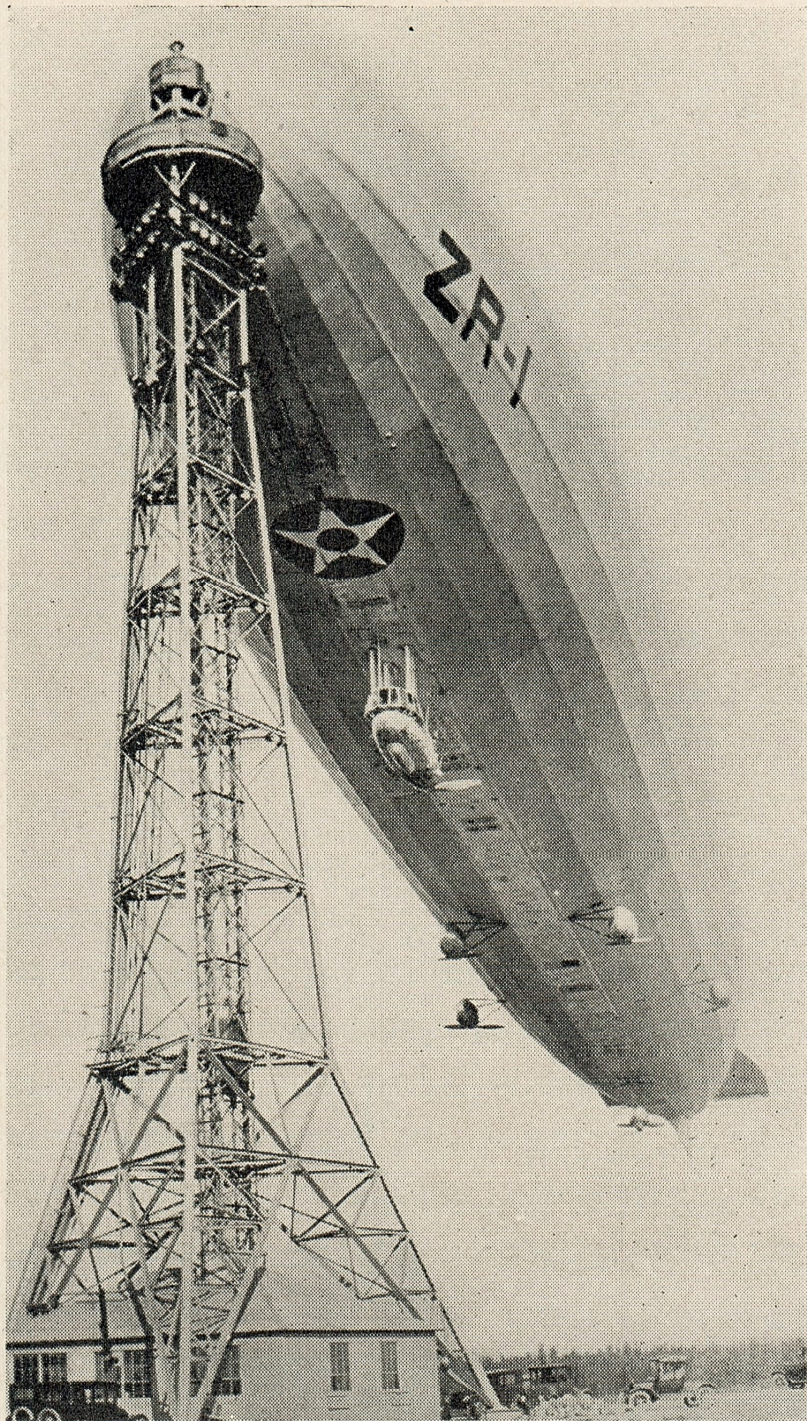
The usual conception of a balloon flight is hot air inflation, ascension, the parachute drop of the pilot and finally the slow collapse and fall of the envelope. Balloons, however, have long been employed for military as well as sport purposes. For military observation, various improvements have been made so that the captive balloon of the present day bears little resemblance to its predecessors. From a sphere or inverted bottle it has developed into a form that resembles the dirigible, and at the same time embodies some of the features of the airplane. The new type, a sausage, rides high over its ascension point, nosed into the wind and steady for observations,

instead of being at the mercy of the wind, as formerly, spinning and soaring with every gust. The envelope has two chambers separated by a tight diaphragm, the upper a gas compartment and the lower an air compartment which is to take care of the expansion and contraction of gas without either the loss of gas in the case of expansion or the loss of shape in case of contraction, which would also cause loss of stability. The air-filled fins to the rear of the envelope serve as stabilizers, and, when the wind velocity is low, they are partially deflated, giving the balloon the appearance of a gigantic elephant. The capacity of the bag fully inflated is 37,500 cubic feet and



Free or spherical balloon landing with drag rope out to check descent.

*Mr. Boxell is employed at Oleum Refinery.



*Dirigible at mooring mast.
Passengers enter the ship via elevator.*

the usual altitude for observation is from 3,000 to 3,600 feet.

A free balloon has the shape of an inverted bottle with a butterfly valve at the top for control of altitude. The neck or appendix is always open to release the gas during expansion periods. There is a long vertical slit in the envelope covered by a panel which is ripped off to deflate the balloon. The bag is covered with a net from which swings the basket. The balloon is inflated with hydrogen or illuminating gas, never with the expensive helium, because the remaining gas is wasted at the termination of the flight. The gross lift of a 35,000 cubic foot hydrogen-filled balloon is 2,240 pounds and the useful lift 1,380 pounds, with a carrying capacity of five persons.

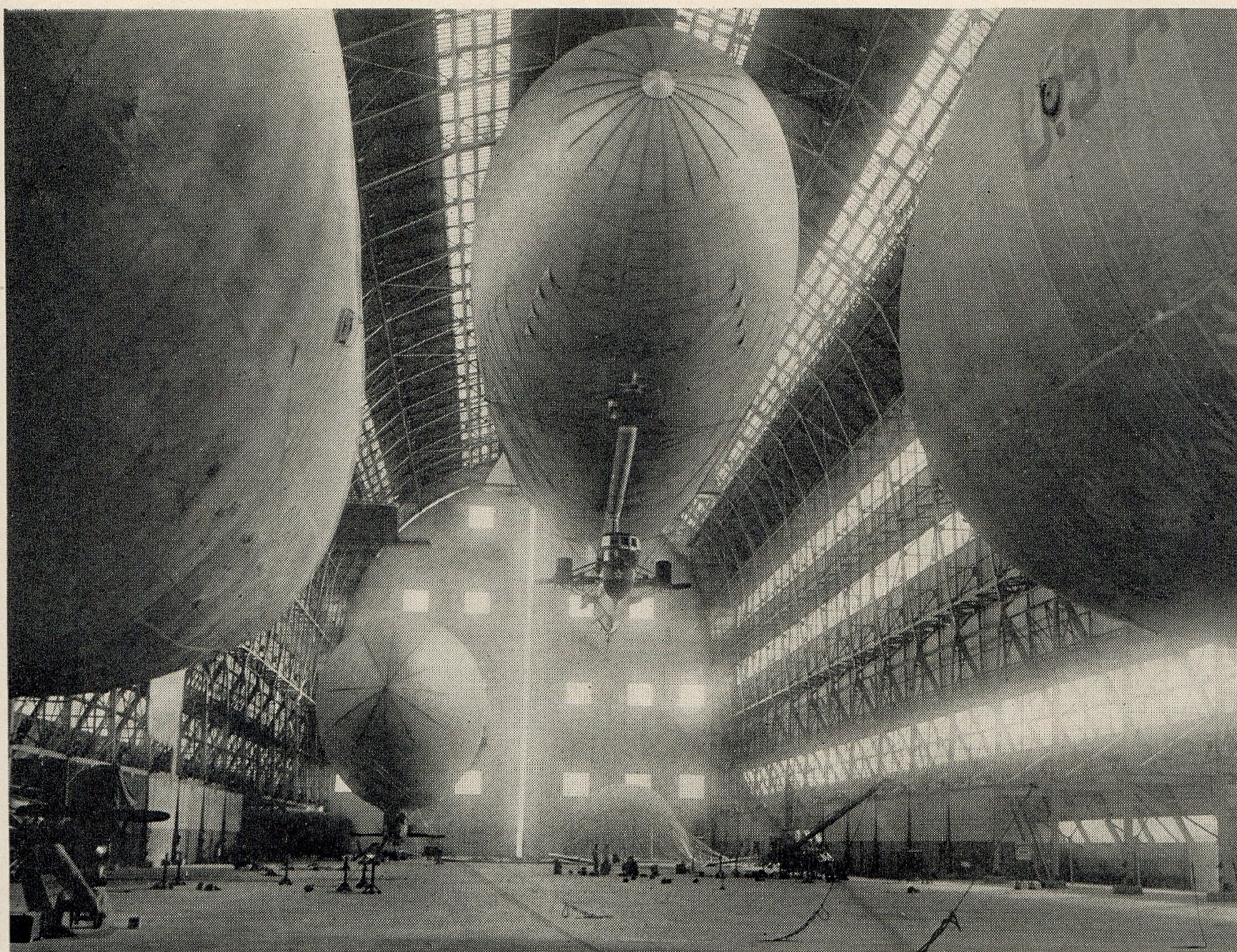
A free balloon in the atmosphere has the analogy of a block of wood immersed in

water, but is more complex than Archimedes' principle in that the atmosphere is very elastic and its weight varies considerably under different conditions. The balloon tends to float in equilibrium with the air. When it ascends the gas expands, due to the reduced pressure of the atmosphere, and a certain amount is lost through the appendix at the bottom of the balloon. When it descends the gas contracts and the ballast must be dropped to offset the loss in lift.

When in equilibrium, there is no motion of the balloon relative to the air because it travels with the air. The pilot is at the mercy of the winds and can only tell his direction by observing the ground. When the ground is out of sight, due to darkness or clouds, it is impossible to ascertain the direction or speed. The pilot can, by ascending or descending into a different stratum of air, meet a different current and modify his direction in order to reach some desired destination, or, occasionally, retrace his path. A successful pilot will always study the prevailing meteorological conditions before a flight.

When the pilot is satisfied with the condition of the balloon the passengers get into the basket and the pilot removes just enough sand or ballast to secure equilibrium and then takes off by discharging sand a little at a time. The balloon rises gently and peacefully, and may penetrate a layer of clouds at 3,000 feet and ascend into the sunshine at 4,000 feet. Considerable expansion of gas takes place and the balloon ascends rapidly. Valving is necessary to descend into the clouds, where contraction of the gas takes place, increasing the descending force. If the drop into the clouds is slow, real sport can be had from bouncing off or sitting on the clouds. Due to a slight radiation from the cloud surface the balloon may come down close to the clouds and then commence to rise, or perhaps, if equilibrium should be obtained, come to rest on the cloud surface.

Balloon flights from Ross Field, at Ar-



Airship hangar at Scott Field, Illinois, showing semi-rigid airships.

cadia, California, usually start before daylight in order to gain considerable flying time before the prevailing mid-day air currents set up which carry the balloon into the mountains. These currents are caused by the sucking effect of the hot air rising over the desert. Should the pilot choose to navigate the balloon over the mountains, he must carry sand ballast and water for a long flight.

During a recent solo flight, starting late in the morning, the upward flow of air over the mountains carried my balloon to an altitude of 15,000 feet, even after extended valving. At this altitude the gas had expanded to nearly twice its normal volume and resulted in the loss of almost one half the original weight of gas. The course of the balloon was straight across the mountains. Equilibrium could not be maintained due to local upward and downward currents of air. When sailing over barren,

rocky surfaces the balloon ascended due to the effect of heat radiation, and valving was necessary. Then when a wooded area or canyon was crossed, the heat was absorbed and produced a downward current of air which started a descent that was checked by throwing ballast. The view was magnificent. Catalina Island appeared close to the mainland and the waves could be seen breaking on the far shore. The observatory on Mt. Wilson was below and Death Valley to the north was well defined in the desert waste.

A storm area was encountered which greatly disturbed the equilibrium of the balloon. In this area the buoyancy of the bag was not only affected by the rising currents of air but also by the temperature and moisture content of the air. Control of the balloon was maintained by constant checking of the navigation instruments, most important of which was the statoscope, an

instrument which registers any slight change in altitude.

On the far side of the range the balloon glided downward, as over a waterfall, with such velocity that nearly all of the ballast was thrown before the descent could be checked. As the sun set, the balloon was drifting toward the Mohave Desert where equilibrium was gained at an altitude of 2,000 feet. An orange peel was dropped and the balloon ascended about 70 feet, illustrating the sensitiveness of the gas. A night flight was not advisable due to the shortage of ballast and loss of gas, so a landing place was chosen near a favorable trail and a landing prepared for. The wind direction of any lower altitude was determined by dropping tissue paper. The landing could thus be judged by the approximate wind direction and velocity. A slight valving of the gas started the descent, which was checked as the bag approached the ground by discharging the proper amount of ballast. The ground wind carried the bag rapidly until it was within 30 feet of the ground when the rip cord was pulled and the envelope collapsed, falling with the wind as the basket struck the ground. In darkness, the rigging was untoggled, the envelope rolled and the net straightened out, ready to be returned for another inflation.

The navigation of a balloon at night is far easier than during the day, because the temperature of the gas is not subject to the disturbing effect of alternate sunshine and clouds and the radiation from the ground. It is possible at night to attain absolute equilibrium and to remain in equilibrium without discharge of ballast for considerable time. This economy in gas and ballast explains why long distance balloon races always commence in the afternoon, an hour or so before sunset. In September a balloon can rise at 5:00 P.M. and, if it rises gradually, the sun sets before it has attained an altitude of more than perhaps 2,000 feet. In fine weather this altitude can then be

maintained throughout the night, and it is not until the sun comes out in the morning and warms up the envelope, thus causing the gas to expand, that a greater altitude need be attained.

By careful manipulation of ballast the rise which commences in the morning can be gradually continued until sunset, probably ending the day at an altitude of 9,000 feet. The coolness of the evening will then contract the gas, starting a descent. The balloon can be brought down slowly by the gradual discharge of ballast, preventing its attaining a high speed of descent and equilibrium may be attained for a second night at a similar altitude to that of the previous night. In fact, by judicious use of ballast the altitude at night can be fixed; this is assuming that the air is not in a boiling state with upward currents such as occur in stormy weather.

Experience in balloon flying is a prerequisite for airship or dirigible piloting. These great gas bags are motor-driven and have a long cruising radius with available lift for fuel and pay freight. The smaller ships of the non-rigid type are similar in construction to the captive balloon and are of value purely for training purposes. The new rigid ships now under construction by our Government will have a gas capacity of several million cubic feet. The gas will be held within a large number of separate compartments and the passenger, fuel and freight space will be within the envelope. Since the investment in this type of air craft is large, the improvement of the airship has been slow. In addition to the airship equipment, hangars and mooring masts must be available. The gas used is helium, due to its non-combustibility, and has about 21.6 pounds per 1,000 cubic feet less lift than hydrogen and costs, at present, three times as much. Future commercial aviation may find the airship as the main artery carrier supplied by airplane feeder lines.

NEWS OF THE MONTH



NINE MONTHS' OPERATIONS

Operations of the company for nine months of the year revealed net profits of \$8,500,000.

Production of crude oil by the company and controlled companies approximated 11,900,000 barrels, an increase of 250,000 barrels over the same period last year. At the present time its shut-in production is about 18,000 barrels per day.

Sales approximated \$59,350,000, a decrease in value of \$1,550,000 as compared with the first nine months of 1926. A larger quantity of products was sold but at a lower aggregate net sales value.

Capital outlay of \$8,250,000 represents principally the acquisition of additional territory, field development, additions to refineries, storage and marketing facilities.

Current assets, consisting of cash, United States government and other bonds, accounts and bills receivable, oil inventories and materials and supplies amounted to \$55,000,000. Current assets are over 6 to 1 of current liabilities. The quantity of crude oil, fuel oil and refined products in storage September 30, 1927, was approximately 21,200,000 barrels.

Current liabilities approximated \$9,000,000, a decrease of \$600,000 from December 31, 1926. During the nine months there has been a decrease in mortgage debt of \$900,000 making a decrease in total indebtedness of \$1,500,000.

DECLARE DIVIDEND

The Board of Directors of Union Oil Company at a meeting held in Los Angeles, October 7, 1927, declared the regular quarterly dividend of 50 cents per share, payable on November 10 to stockholders of record at the close of business October 15, 1927. The stock transfer books of the company will not be closed.

NEW WILDCATS

Roads and camp are being built for Rust No. 1, a wildcat well in San Luis Obispo county on the Huasna ranch. The well has been spotted in the hills about 12 miles south and west of Arroyo Grande on a 1000-acre lease which the company holds with the California Petroleum Corporation.

A new wildcat well in the Poso Creek area, known as Tribe No. 1, has also been located by the company. Drilling will begin within the next few weeks.

THE MEANING OF "UNION"

- U—UNIFORMITY—The first gallon is the same as the following—no variation—all have the same qualities of proper acceleration and smoothness of running.
- N—NON-DETONATING—Insures a long life motor by sparing the usual wear and tear on the motor caused by ordinary fuel.
- I—INSTANTANEOUS—Insures a quick getaway without undue strain on the motor, every drop a stronghold of energy.
- O—ORGANIZATION—The company has a full staff of trained employees to help the consumer in every way to obtain the full benefits of motor-ing in every form.
- N—NECESSARY—No motorist should be without Union products; the Union shield is your protection.

WILLIAM ROSE,
Messenger, Executive Department

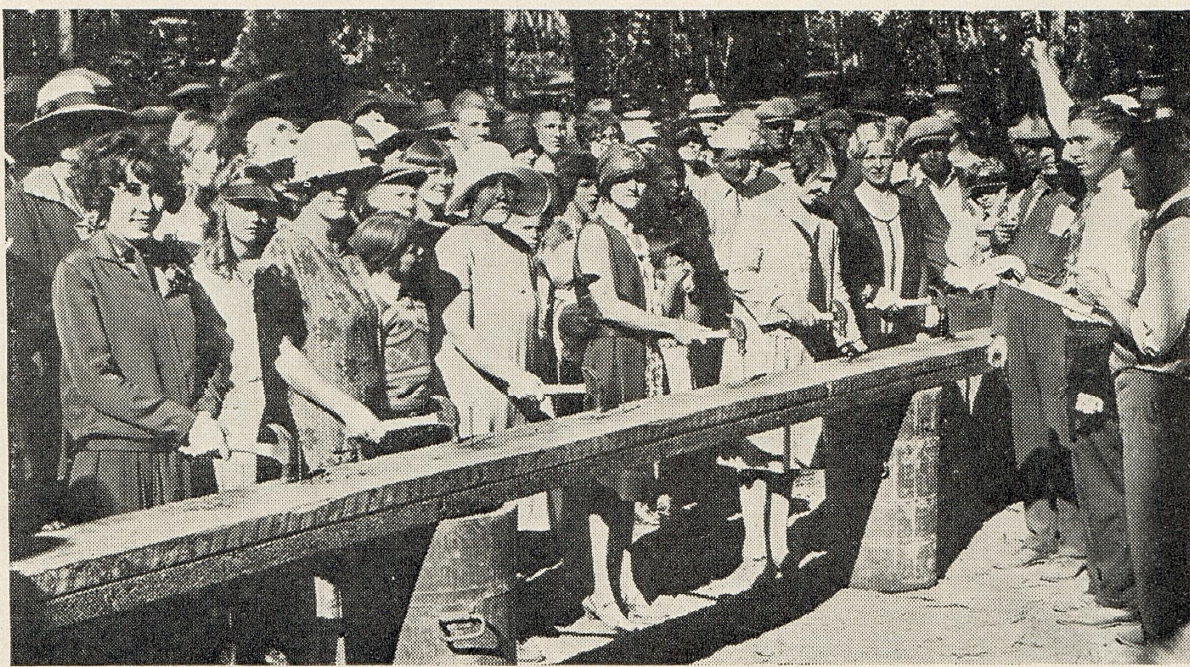
CLUB ELECTS OFFICERS

The annual election of officers of the Union Oil Social Club, Vancouver Office, was held October 11. The following officers were elected: Honorary President, R. J. Kenmuir; President, Chas. R. Gross; 1st Vice-President, Harry Austin; Treasurer, Thomas Moore; Secretary, Viola A. Cameron.

The first dance of the season was held October 27th in the form of a Hallowe'en party.

PHOENIX FESTIVITIES

Camelback Mountain, an October full moon, creamy marshmallows, hot wieners, and a group of employees out for a good time! This combination resulted in one of the most successful outings the Phoenix District has had. The occasion was the recent annual wiener and marshmallow roast held by the Phoenix Sales District.



NO ANTI-KNOCK HERE

Nail driving contest reveals considerable detonating talent among the ladies at the recent Field Department Picnic at Dominguez.

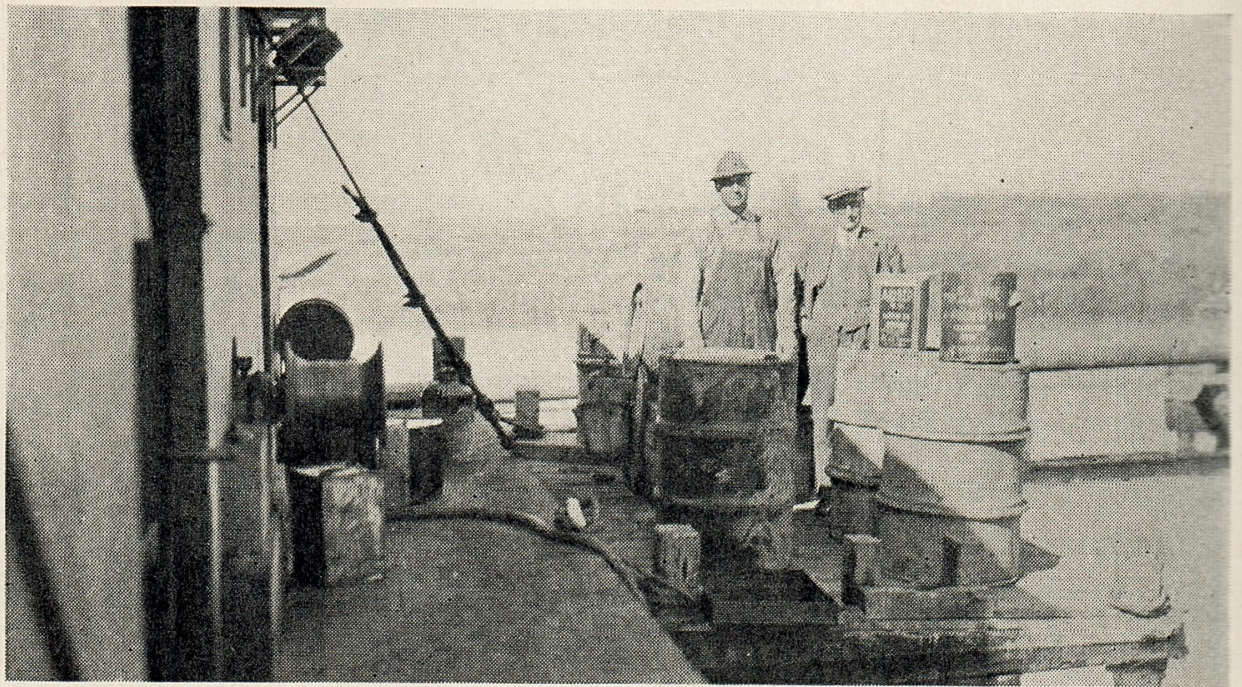
WORLD'S RECORD WITH UNION PRODUCTS

A new world's record was recently established at Bakersfield, California, for a fifty-mile race on a one-mile track. The winner, Bill Bundy, driving Pop Evans' entry, achieved this outstanding victory with Union Ethyl Gasoline and Purepenn Motor Oil. Bundy's time for the fifty miles was :39:5, an average of eighty-three miles an hour.

Pop Evans has long been a firm believer in the superior quality of Union Oil Company's products, and this victory confirms the wisdom of his judgment. Out of fifteen entrants, Pop Evans' car was the only one to finish without motor trouble, all others having been forced at one time or another to the pit with pre-ignition trouble or other difficulties.

NEW GASOLINE LINE

Rights of way and franchises have been completed for the new gasoline line which is being built from the Alamitos Extension field to connect with the company's main gasoline line to the Los Angeles refinery.

**MAKING ROOM**

Aboard the dredge operated by H. G. Fenton, Contractor, which is preparing a harbor for the La Jolla Beach and Yacht Club, north of La Jolla, California. The good-looking fellow with the cap on is Salesman H. A. (Doc) Wood. He has just supervised the delivery of another order of Union Oil products which have been used on the job exclusively since it was started six months ago.

**SEPTEMBER
CRUDE
PRODUCTION**

The total production of crude oil in California for September amounted to 19,064,500 barrels, an average of 635,483 barrels per day. This is an increase of 13,576 barrels per day over August production.

Total stocks of crude and all products in Pacific Coast territory decreased during the month 872,063 barrels. The total stocks at the end of the month were 140,979,175 barrels. The total stock decrease for 1927, up to September 30th, was 4,633,001 barrels.

Fifty-one wells were completed during the month with an initial daily production of 18,559 barrels, compared with 75 wells completed during August with an initial production of 42,286 barrels.

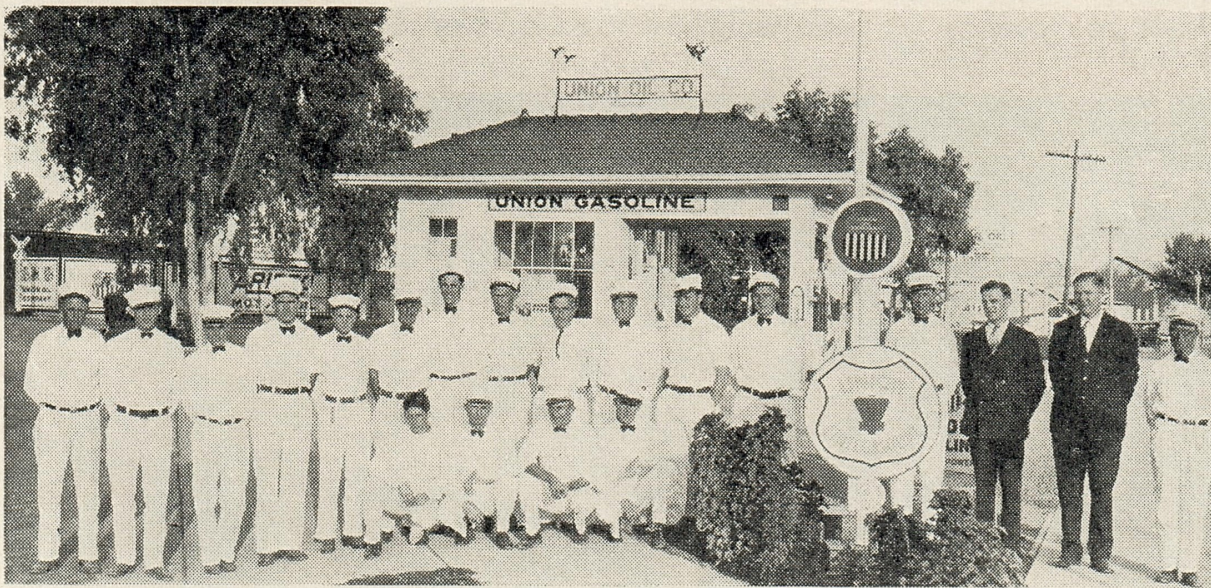
Complete details of production and development by fields for September will be found on page 23.

MARINE NEWS

The tankers Cathwood, Santa Maria, Montebello and Radiant have just completed their semi-annual inspection and repairs. The Utacarbon has also been in drydock as a result of damages received in her recent encounter with a hurricane off the South American Coast.

The La Purisima recently made the first delivery to the company's new waterfront station at Hoquiam, Washington. Her cargo consisted of refined oil, Diesol and fuel oil.

The Santa Maria left for Buenos Ayres October 21st on her fourth and last voyage under the present contract. She carries a full cargo of fuel oil.

**THEY "FILL 'EM UP" AT FRESNO**

Members of the newly organized "Aristo-Cats' Club" of Fresno composed of service station operators in that district. Left to right: L. E. Morris, W. D. Treadwell, C. L. Reed, E. B. Penn, L. M. Kachner, C. Walters, W. E. Ray, R. Glenn, J. E. Ekas, M. F. Greve, E. M. Bollinger, P. A. Forhan, C. Scheidt, J. T. Carvel (Service Station Collector), C. J. Price (Service Station Superintendent), Geo. Goeffert. Kneeling: F. W. Owens, Geo. Peddy, E. Shipe, N. T. Baird. The spirit of cooperation, harmony and conscientious effort on the part of these boys is reflected in the very satisfactory increase in their district's service station sales.

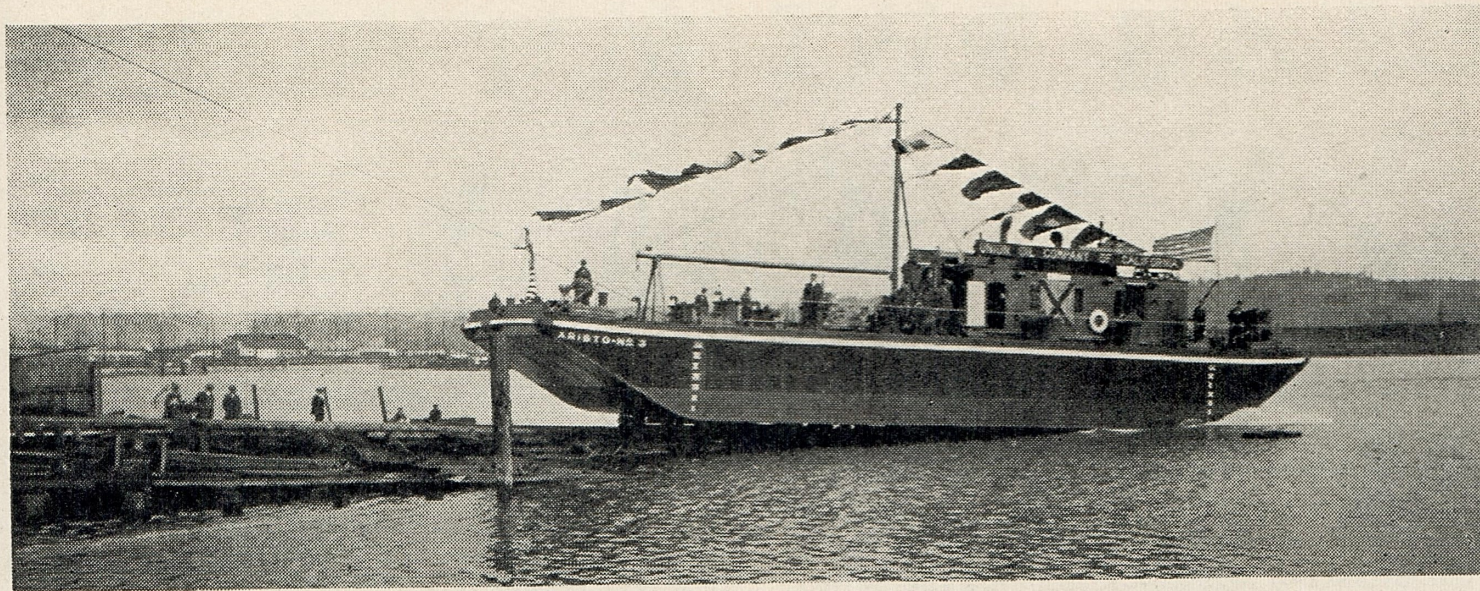
HARBOR FROLIC

An informal dance, sponsored by the Personnel Division, was recently held at San Pedro. Over 500 employees, their families and friends, were in attendance.

C. M. Hoag was master of ceremonies, with William Cereghino in charge of advertising and ticket selling.

Singing and dance numbers were furnished by pupils of the Ruth Spere School of Dancing. Music for dancing was furnished by Everett's orchestra.

The affair was the first of the fall season, and employees of the Harbor District are looking forward with pleasure to similar events scheduled for the coming winter.



ADDITION TO NORTHERN FLEET

Launching a few days ago of Aristo No. 3 adds a new company carrier of refined oils for Puget Sound ports. The vessel, a product of the Wallace Bridge and Structural Steel Company of Seattle, is ninety-four feet long and nine feet deep with a thirty-foot beam. Its capacity is 107,000 gallons of refined oils. Comfortable quarters are provided for the crew. An electrically-operated winch on deck provides for the handling of deck cargo. The Aristo No. 3 was sponsored by Miss Alice Kelly, daughter of V. H. Kelly, Manager of Northern Division

SERVICE EMBLEMS

The work of checking the service records of all those entitled to service emblems, as well as the task of engraving the initials and date of employment, is nearing completion and it is anticipated that the emblems will be ready for distribution shortly after November first.

In all there are 924 emblems to be distributed on this occasion, divided as follows: 2 for 30 years' service or over; 5 in the 25-year class; 59 in the 20-year class; 220 in the 15-year class, and 639 in the 10-year class.

It is planned to have all those with twenty-five years of service or over come to Los Angeles, where the presentations will be made by a senior official of the company, and where they will be entertained before returning to their homes and to the familiar tasks, in the performance of which they have long served with distinction.

This meeting of the "old timers" will be to each a red-letter event, and they will undoubtedly take great pleasure in discussing the early days of the company's operations and its growth and development, each one adding his quota of "remember when's."

COMPETITION FOR SERVICE STATION DESIGNS

The company has instituted a competition open to Pacific Coast architects and draughtsmen for the best design for service stations which will not only prove practical but will be objects of beauty and civic assets as well.

In staging this competition, the company is motivated by a desire to give to the cities and towns in which their service stations are located, units of beauty in service station design and construction.

All designs submitted will be judged by a jury of award consisting of two architects selected from membership in the American Institute of Architects and one lay member, an official of the company.

To the competitor whose design is placed first by the jury, an award of \$1000 will be given, and to those placing second and third, sums in the amount of \$650.00 and \$350.00 respectively will be awarded.

The successful design will be used by the company in the reconstruction of its several hundred service stations throughout its marketing territory from Alaska to Mexico and in the Hawaiian Islands.

"Monte De Oro"

Among the many fine canvases hung in the fifth exhibition of the "Painters of the West" at the Los Angeles Biltmore Salon recently was the well composed, colorful and directly painted "Monte de Oro" by George K. Brandriff, which is reproduced on the Bulletin cover this month.

"Monte de Oro"—Mountain of Gold, was painted in the High Sierras at Mammoth Lakes and shows the site of the famous Pine City gold rush of fifty years ago.

Rediscovery of gold at this site may re-

vive old scenes when forty thousand people swarmed over its steep defiles, strewing its verdant slopes with the vermilion quartz and breaking the enchanting solitude of a Sierra landscape with the rumble of stamp mill and gold strike hysteria.

Reprints of this cover, without printing and suitable for framing, are available to employees at 50 cents each. Requests for prints should be addressed to G. G. Blue, Manager of Insurance and Personnel. Bulletin readers, other than employees, who desire to secure prints, should communicate direct with the artist, George K. Brandriff, 3998 South Vermont, Los Angeles.

S P O R T S



BIG GUNS

Big league pitching stars performed in Ft. Collins a few days ago in a game between Union Oil Company and Ideal Cement Company. Grover Alexander of the St. Louis Nationals pitched for the Union and Dazzy Vance of the Brooklyn Nationals occupied the mound for the cement company.

There has been keen rivalry between the two teams and the additions of the two star pitchers to the lineup afforded an opportunity for another hot battle.

Results of the game have not yet been received, but we will venture the prediction that neither twirler was knocked from the box.

L. A. BOWLING LEAGUE

The end of the third week in the Los Angeles district bowling tournament finds the Engineering Bears and the Lub team tied for first place, each having a percentage of 750. Individual honors go to J. F. Simpson with an average of 179. Sleeth of the Manufacturing team is tied with Clayton, Transportation, for high game. Each has scored 223 pins.

GOLF

A. W. Koerber and W. Calvert are tied with S. D. Herkner and C. J. McKeever with 4 points each in Bracket 2 of Los Angeles four-ball foursome tournament. J. A. McClocklin and M. F. Robertson lead Bracket 3 with 4½ points. Bracket 1 is yet to be heard from.

HORNIDGE WINS

Roy Hornidge won the men's singles and the President's Cup for the third time in the recent annual tennis tournament staged by the Los Angeles district, disposing of Desaix B. Meyers, 6-0, 6-2.

Miss Dove Honeyhill won the ladies' singles from Miss Consuelo Willard, last year's winner. The score was 6-2, 6-1. Gerald G. Blue and Roy Hornidge defeated R. Gillies and Sam Anderson in the men's doubles, 6-2, 6-4. This is the third time this pair has won this event.

BASKETBALL

The Los Angeles district basketball team meets the General Petroleum aggregation November 1st in the first game of the Petroleum Athletic League season. Practice games have revealed exceptional talent and a brilliant season is anticipated.

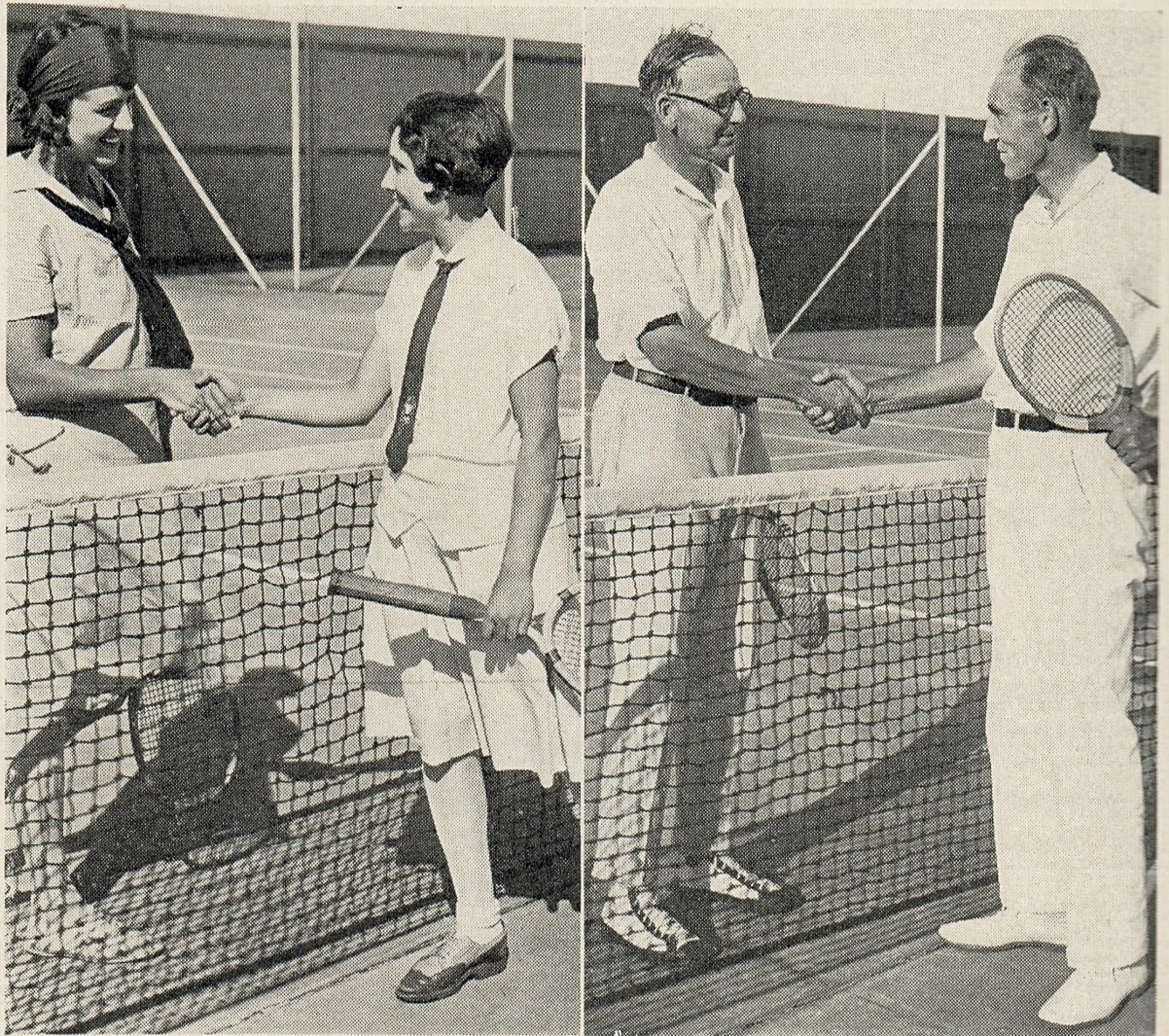
Among other districts where basketball teams are being organized are Portland, Seattle and San Francisco. These districts have made splendid records in their respective hoop circuits during past years, and much is expected of their 1927-28 quintets.

WITH DOMINGUEZ BOWLERS

The Dominguez district bowling league got off to a flying start November 1st, and eye-witnesses inform us that Captain Tom Reed's crew of apple flingers have developed a terrible distaste for vertical ten pins.

The Los Angeles Pipe Line split the evening's honors with the Gas Division, both teams emerging unscathed. Whisler, L.A.P.L., tops the individual average column with 174. Laemmel, Santa Fe Springs, slew the most pins in one session with a total of 221.

The teams entered in the league are: Los Angeles Pipe Line, Gas Division, Santa Fe Springs, Engineering Transportation, Warehouse, Geological and Field.



CONGRATULATIONS!

Miss Hunnewell of the Los Angeles Refinery (left) being congratulated by Miss Willard at the conclusion of the ladies' singles championship event.

Roy Hornidge (right) receiving handclasp from Desaix B. Meyers whom he defeated in men's singles competition for President's Cup and Los Angeles district championship.

SAFETY IN THE UNION



THE SAFETY BOARD PLAN

Three and a half years ago when the safety work of Union Oil Company of California was made a matter of co-operative interest on the part of all departments, there was outlined a plan of action on which the work of fire and accident prevention should be carried forward. It is interesting at this time to put that plan on record for the employees of the company in order that they may know how the management regards the matter of fire and accident prevention and how the Safety Board operates.

* * *

Secure prompt, accurate and full reports of all accidents.

* * *

Classify these as to cause, on lines laid down by past experience of this and other large oil companies.

* * *

Place before all operating officials the legal requirements of governmental bodies in regard to fire prevention and safety appliances, safe practices, etc.

* * *

Stimulate interest in accident prevention work on the part of all employees, through meetings, publications, bulletins, posters and competitive records.

* * *

Teach fundamental principles of first aid to all employees, using for this purpose the good offices of the United States Bureau of Mines and later employing an instructor on full time. Stimulate interest in such work by participation in First Aid Contests, inter-departmental and state-wide.

* * *

Co-operate with other companies and agencies in safety and fire prevention work, to improve the technique of such activities and to guard against unwise legislation.

* * *

Carry forward the work of accident prevention not as a head office activity but as part of the routine duty of every company employee.

TEAMS ENTER CONTEST

As this goes to press, Oleum and Los Angeles Refinery first aid teams are going through their last stages of training for the Fifth California Industrial First Aid Meet to be held on October 27-28. When the BULLETIN reaches its readers the results will have been made known and the prizes awarded. At this moment it looks as though the competition among the twenty-four teams entered will be keener than ever before. The winners will earn their glory. Sportsmanship among the teams is as high as in any amateur sport and each team member sincerely seconds the wish, "May the best team win!"

To the Bureau of Mines goes the credit of initiating in California this competitive method of stimulating interest in saving life, which now has affected almost every industry in the state.

GAS MEN STUDYING FIRE PROBLEMS

The second group to take up the recently instituted system of problem fire drills is in the Natural Gas-Gasoline Department. One of the first problems was as follows:

Two operators on a combined compressor and absorption plant are working alone. The gauge glass on a pressure-rundown tank breaks and there is a flash. Almost immediately a 3" cast iron elbow on the bottom of the tank breaks and the blaze becomes general.

How is that for a nice kettle of fish?

Amazing what one discovers in this game! Who would have guessed that there is a right and wrong way to drag a hose? What has sex got to do with it, anyhow? Why bring that up? And then there are those fool gaskets, that roll clear down into Brea canyon if they get a good start.

One of the bright stunts used on the drills is in connection with the operating switches at the time of a fire. A plant handling thousands of feet of gas per hour cannot be shut down forthwith. In case of fire the operations must be changed to cut off the supply of fuel to the fire with the least possible disturbance to the rest of the system of which the gas plant is only one unit. This requires the greatest skill and cool-headedness on the part of the operators. During the drills tags marked "open" and "shut" are handed the operators. As soon as the location and extent of the imaginary fire are announced, the operators go through the motions of changing operations by hanging these tags on the operating valves. After the fire is officially "out," a post mortem is held and the position of each valve must be satisfactorily explained.

The refineries, in which this system of fire drills originated, have already proved the value of knowing how to handle specific problems. Both at Oleum and Maltha the men have handled small operating fires which were identical with previous problems.

SAFETY FLAGS

During October Safety Flags flew at Los Angeles Refinery for both the Engineering and Refinery men. H. L. Smith at Oleum started his eleventh month of construction without a single lost time accident. Los Angeles Pipe Line won from the Producers and Malcolm Bacon's gang beat out Clim Eckles' Engineers. In the Sales Engineering division only the Northern men had any lost time accidents and the flags fly in the Central and Southern Divisions.

The fourth fatal accident of 1927 among Union Oil Company of California employees occurred on August 29, when Arthur MacDonald was asphyxiated by carbon monoxide while repairing an automobile in a closed garage at Little Dome, Wyoming.

THE SAFE HANDLING OF FLAMMABLE PRODUCTS*

For the benefit of those who do not read the papers devoted to fire protection and allied technical subjects, let me explain that a few years ago it was decided to use the word "flammable" instead of "inflammable." At the same time there was coined a new word to go with it, "non-flammable." The meaning of these words is obvious, while there is always a little doubt as to just what "inflammable" means.

There is still doubt as to what products we should class as flammable, for almost any material will burn or decompose if you get it hot enough. Even our old standby, concrete, becomes almost fluid when exposed to such temperatures as are found in a general conflagration. I shall therefore limit the term "flammable materials" as I intend to use it, to mean those liquids and gases which are in common use in industry and on construction and which frequently cause fires and explosions. Paints, varnishes and their solvents, petroleum derivatives in liquid form, fuel gases, either natural or manufactured, and the special compressed gases, acetylene and hydrogen—these are typical of the materials which we find used by almost all trades. When properly handled they are among the most useful of materials but when turned loose they sometimes run amuck and lead to tragic and costly consequences.

It is not enough to sound the warning so commonly seen on fragile packages: "handle with care." The nature of the beast determines what care should be used and no general method of handling applies to all. At best we can group some of these materials together according to their nature and give an account of their special hazards and how these are being successfully overcome.

Spontaneous Combustion

Not many months ago a gang of painters were brightening up a service station. At five o'clock they hung up their overalls in the station operator's closet and went on their way. Less than thirty minutes later the service station operator saw smoke issuing from the closet. With the three or four extinguishers with which his station was equipped he was soon able to control the blaze, which had done little more than smudge the fresh paint on the steel building.

It was the charred contents of the closet that furnished the clew to the fire's origin and the point of this story. Either the closely-hung oil-soaked overalls or an oily rag in one of the pockets had started the blaze. A steel building, a vigilant attendant and plenty of first aid fire equipment had prevented a serious loss that would have been charged up on the books against one of the prolific causes of fires, namely, spontaneous combustion.

Oil paints dry in three ways. The turpentine or other thinner evaporates or is soaked into the structure painted; some of the oil is likewise absorbed, and then, over the surface, a tough skin is formed by the action of the atmospheric oxygen upon the oil. That is one of the useful properties of linseed oil and it is shared by many other vegetable oils used as paint vehicles. It is of no special importance to the painter that this process in common with oxidation generally gives off heat although he knows that the process is accelerated by warmth. Nor would the scientist, who knows all about it, advise anyone to sit on a freshly painted bench in order to warm his anatomy. The phenomenon is interesting to us only because we frequently let it

get the better of us. We throw rags and garments wet with linseed oil paint where they can get plenty of oxygen but where the chance of dissipating heat is reduced to a minimum. The oxidation process starts at once and as the temperature increases, becomes more and more rapid until the temperature reaches the fire point of the turpentine or even of the oil itself. Sometimes this process takes days and sometimes but a few minutes, depending on conditions. It is typical of the start of practically all spontaneous combustion fires on construction jobs and in factories.

The remedy for this type of fire is to forbid the accumulation of oily rags in anything but metal containers. Some paint shops go so far as to have tanks of water into which the rags are thrown, others collect them and burn them. Where metal containers are used they must be emptied daily if any animal or vegetable oils are used. Petroleum oils are not subject to spontaneous combustion but furnish fine fuel if a painty rag is present to start the fireworks. Cleanup should be a matter of routine, with careful inspection aimed at the possible source of such fires rather than at their detection when once started. Automobile body painting plants have made this part of their operating technique. The last two or three minutes of the day are spent in emptying pockets of rags, collecting them and sending them to the incinerator. Overalls are hung in the open, where they get plenty of ventilation. Knowledge of the hazard and discipline in enforcing cleanliness have stopped their frequent fires.

Paints and the oils used therein are mentioned because they are so common. They are but one of a number of industrial materials which burn spontaneously. There are of course many others. Coal, cotton (because of the oil left on it from the ginning process) and hay are a few of them. Investigate and you will find that in almost every case the conditions under which they take fire are the same. Storage—meaning close packing, no ventilation to dispel heat but enough to bring in the necessary air for oxidation and the gradual building up of temperature until the fire point is reached—it is in storage that most such fires occur and the cure is found in one of two ways. Either all the oxygen must be cut off as it is when coal is stored under water or there must be enough ventilation to keep the temperature down to a safe limit.

Industrial Gases

Industrial gases are so common that even the newest immigrant laborer is allowed to handle them. They are seldom dangerous when burned, due to the relatively small volume that can be discharged at a time. It is when they escape unburned that they become destructive. Take for example the welding of a small tank. It is virginal in its innocence. But a moment before, it consisted of a flat sheet and two discs. Just as the closure is being made by the acetylene welder, his torch blows out and for an instant a mixture of acetylene and oxygen blow through the crack into the tank. The welder relights his torch and an explosion sends him to glory.

Or think for a moment of the fireman in a large boiler house. A boiler has been overhauled and a new lining of firebrick placed in the furnace. A slow fire is started, with natural gas as fuel, in order to dry out the brick work. Some time later the fireman notices that the fire is out. "Must have pinched her down too low," he says as he turns up the gas valve and throws in a bit of burning waste. But the accumulated gas in the firebox has become an explosive mixture and the fireman finds himself at the bottom of a brick pile at the other end of the room or is carted off on a shutter.

(To be concluded)

*From an address made to the Pacific Coast Safety Conference, Los Angeles, October 24, 1927.

California Oil Statistics, September, 1927

Prepared by American Petroleum Institute, Pacific Coast Office

PRODUCTION

(Figures of production and stocks are in barrels of 42 Gals.)

DISTRICT	BARRELS PER MONTH		DAILY AVERAGE	
	Sept., 1927	Aug., 1927	Sept., 1926	Aug., 1927
Kern River	539,760	17,992	16,994	11,612
Mount Poso	2,441	81	38	—
Round Mountain	—	—	—	—
McKittrick	148,636	4,954	5,062	5,374
Midway-Sunset	2,541,014	84,700	84,997	94,188
Elk Hills	779,595	25,987	24,914	34,710
Lost Hills-Belridge	120,446	4,015	3,928	4,810
Coalinga	580,425	19,347	19,229	19,411
Wheeler Ridge	32,918	1,097	1,026	1,041
Watsonville	1,658	55	58	58
Santa Maria	170,625	5,687	5,853	4,982
Summerland	4,212	140	136	129
Goleta	8,994	300	337	—
Ventura Avenue	1,725,341	57,511	45,845	47,952
Ventura-Newhall	182,150	6,072	5,949	6,062
Los Angeles-Salt Lake	50,170	1,672	1,753	1,904
Whittier	52,162	1,739	1,646	1,975
Fullerton (Brea Olinda)	517,975	17,266	18,352	20,059
Coyote	421,776	14,059	13,224	16,482
Santa Fe Springs	1,198,207	39,940	39,778	47,280
Montebello	436,367	14,546	14,118	17,803
Richfield	663,181	22,106	22,168	18,027
Huntington Beach	1,940,005	64,667	68,548	45,194
Long Beach	2,704,970	90,166	90,992	97,084
Torrance	641,675	21,389	22,045	26,984
Dominguez	456,531	15,218	15,180	22,382
Rosecrans	238,588	7,953	8,503	13,602
Inglewood	989,508	32,984	33,606	42,523
Newport	652	22	20	109
Seal Beach	1,914,518	63,817	57,607	1,762
TOTAL	19,064,500	635,483	621,907	603,498
August	19,279,131	621,907		
Decrease	214,631	13,576*		

*Increase

STOCKS

	Sept. 30, 1927	Aug. 31, 1927	Sept. Stock Decreases	Sept. 30, 1926
Heavy Crude, heavier than 20° A. P. I., including all grades of fuel	93,390,070	93,201,679	*188,391	88,572,233
Refinable Crude, 20° A. P. I., and lighter	23,025,124	23,931,170	906,046	30,308,093
Gasoline	12,329,195	12,386,669	57,474	10,545,392
Naphtha Distillates	2,672,994	3,104,755	431,761	4,281,018
All Other Stocks	9,561,792	9,226,965	*334,827	10,919,993
TOTAL ALL STOCKS	140,979,175	141,851,238	872,063	144,626,729

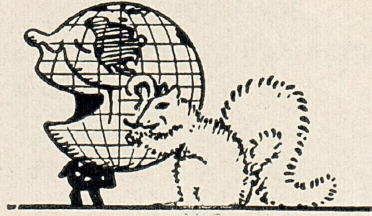
*Increase

DEVELOPMENT

	New Rigs Up	Active Drilling	Completed	Daily Initial Output	Active Producing	Abandoned Wells Drillers	Abandoned Wells Producers
Kern River	14	19	11	1,765	1,310	2	..
Mount Poso	..	2	..	..	1	..	..
Round Mountain	..	2	..	..	..	1	..
McKittrick	..	2	..	..	312	..	..
Midway-Sunset	2	5	4	395	2,859	..	1
Elk Hills	1	1	..	..	230	..	..
Lost Hills-Belridge	..	2	..	..	242	..	..
Coalinga	..	4	..	..	983	..	1
Wheeler Ridge	1	1	..	..	29	..	..
Watsonville	..	..	..	..	6	..	..
Santa Maria	..	3	1	225	229	..	..
Summerland	..	2	..	..	92	..	..
Goleta	..	3	1	25	5	..	..
Ventura Avenue	12	26	2	3,375	103	..	..
Ventura-Newhall	4	27	1	219	503	1	..
Los Angeles-Salt Lake	..	..	..	..	337	..	..
Whittier	..	..	..	..	181	..	..
Fullerton	1	6	1	555	384	..	..
Coyote	1	5	..	..	208	..	..
Santa Fe Springs	..	2	..	..	327	..	2
Montebello	1	3	..	..	181	..	..
Richfield	3	16	5	955	250	1	..
Huntington Beach	11	29	12	2,285	586	4	..
Long Beach	3	21	1	99	668	1	8
Torrance	..	1	..	..	655	..	..
Dominguez	2	2	..	..	78	..	..
Rosecrans	..	1	..	..	116	..	1
Inglewood	..	1	1	50	222	..	..
Newport	..	1	..	..	5	..	..
Seal Beach	..	21	11	8,611	132	..	..
Miscellaneous Drilling	4	131	..	..	..	7	..
September	60	339	51	18,559	11,234	17	13
August	67	345	75	42,286	11,202	11	21
Decrease	7	6	24	23,727	32*	6*	8
Average for year 1926	95	422	76	32,635	11,288	24	17
Average for year 1925	105	417	79	42,247	11,393	28	12
Average for year 1924	103	510	103	42,412	10,903	28	21
Average for year 1923	111	759	82	114,690	8,928		24
Average for year 1922	115	605	67	43,700	9,410		17

*Increase

REFINED AND CRUDE



"Rather a sharp thunder-storm last night."

"I hadn't noticed; I was talking with my wife all evening."

* * *

"Can people tell fortunes by means of cards?"

"It depends on circumstances. You can confidently predict good fortune for a man who holds four aces against an equal number of kings."

* * *

"What's on the menu?"

"I have frog's legs, chicken liver, pig's feet, and—"

"Never mind your deformities, what have you to eat?"

* * *

Rastus: "What kind of cigars do you all smoke?"

Sambo: "Ah smokes Robinson Crusoes."

Rastus: "What kind is dem?"

Sambo: "Castaways, dumbbell, castaways!"

* * *

"What's this?" asked the Scotchman excitedly, glancing at the headlines of the news-stand. "Edinburgh Express wrecked near Dundee?"

"And my wife was on that train," he said as he turned to walk away.

"Well, aren't you going to get a paper and read the details?"

"Oh, I'll wait for the later edition and get the football news at the same time."

* * *

Store Manager: "They say brunettes have sweeter dispositions than blondes."

Clerk: "Well, my wife's been both and I can't see any difference."

City Editor: "Here boy, your story is too long. Rewrite it so the most ignorant boob will know what you mean."

Cub Reporter: "What was there ya' didn't understand, boss?"

* * *

Mother (to Bobby): "Surely you did something else but eat at the school treat?"

Bobbie: "Yes, mummie. After tea we sang a hymn called, 'We can sing, full tho we be.'"

Mother learned later that the hymn selected had been: "Weak and sinful tho we be."

* * *

A chap was arrested for assault and battery and brought before the judge.

Judge (to prisoner): "What is your name, occupation, and what are you charged with?"

Prisoner: "My name is Sparks. I am an electrician, and I am charged with battery."

Judge (after recovering his equilibrium): "Officer, put this guy in a dry cell."

* * *

Alcohol may be used to clean the windows of your car, but you don't have to blow it on the glass.

* * *


The little girl had been visiting. When it was time for her to be going home, her hostess said: "Goodby, Marjorie; you must come again soon. We should like to see more of you."


"But there isn't any more of me," replied Marjorie.

* * *

"Why were you late to Sunday-School this morning, Tom?" asked the teacher.

"Why, the bell rang before I got here," the little fellow explained.





Night Thinkin'

Oh this is what a feller gits
That goes a-punchin' cattle:
He's got tuh ride the herd at night
An' hear his rowels rattle,
An' hear his saddle leather squawk,
An' see the stars a-blinkin',
An' since they aint a chance tuh talk
He's got tuh git tuh thinkin'.

He wonders where his girl is at
An' who she's got beside her,
An' gits afraid some other guy
Has really roped an' tied her,
An' then he lets his pony stop,
An' feels a lonesome smother
As out across the sleepin' herd
A stray calf calls its mother.

—JAMES LEROY STOCKTON

